

Thermo Gamma-Metrics

OPERATIONAL PROCEDURE

NO. SE-04.004
REV A
DATE 11/29/2000
APVD F. Brewer
PAGE 1 OF 1

LEAK/CONTAMINATION TEST CERTIFICATE

☒ 6-Month Inspection & Source Wipe ☐ Installation ☐ Replenishment ☐ Source Removal
☐ Shipping

Customers Name: Reliant Energy Services
Responsible Person: Bill McGraw
Location of Source: Crusher House
Device: BMA Ser. # 800031

Site: Cheswick Power Plant
Test Date: 02-21-02
PO: _____

Currently, regulatory agencies define a sealed radiation source as leaking if removable contamination is found to be equal to or greater than 0.005 μCi .

Background Countrate, if applicable N/A CPM

Serial No.	Model No.	Activity μg	Contamination μCi *
<u>Z984</u>	<u>Z 100</u>	<u>3.30</u>	<u><0.005</u>
<u>Z985</u>	<u>Z 100</u>	<u>3.26</u>	<u><0.005</u>
<u>Z1514</u>	<u>Z 100</u>	<u>12.82</u>	<u><0.005</u>
<u>Z1515</u>	<u>Z 100</u>	<u>12.90</u>	<u><0.005</u>
<u>6141GS</u>	<u>Cs137 X.8</u>	<u>7.52</u>	<u><0.005</u>
<u>6145GS</u>	<u>Cs137 X.8</u>	<u>7.04</u>	<u><0.005</u>

Instruments used:

Model Ludlum 177

S/N 94778

Cal due 05-06-02

Model P G M Pancake Probe

S/N 091827

Cal due 05-06-02

Model _____

S/N _____

Cal due _____

Certifications:

Special Form: ☒ Californium 252 (Cf-252) Cf-Pd cermet or Cf-Pd alloy.
☒ Cesium 137 (Cs-137) Cesium Chloride.
☐ Other _____

Leak Test: ☒ The sources listed above have passed the ANSI N5.10-1968 Appendix B Section B2.1 Wipe Test with removable Alpha and Beta/Gamma surface contamination less than 0.005 μCi .

Californium is checked for Alpha and Beta/Gamma contamination; Cesium is checked for Beta/Gamma contamination. For other source material, contact the Radiation Safety Officer.

* Note: $\text{CPM} / (2.22 \times 10^6) = \mu\text{Ci}$

Test Performed By: Ward, D.
Print last name & first initial

Signature: David Ward

Date: 02/21/02

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LEAK/CONTAMINATION TEST CERTIFICATE

☒ 6-Month Inspection & Source Wipe ☐ Installation ☐ Replenishment ☐ Source Removal
☐ Shipping

Customers Name: Orion Power Mid West Company Site: Cheswick Power Plant
Responsible Person: Bill McGraw Test Date: 08-21-01
Location of Source: Crusher House PO: _____
Device: BMA Ser. # 800031

Currently, regulatory agencies define a sealed radiation source as leaking if removable contamination is found to be equal to or greater than 0.005 μCi .

Background Countrate, if applicable N/A CPM

Serial No.	Model No.	Activity μg	Contamination μCi *
<u>Z984</u>	<u>Z 100</u>	<u>3.76</u>	<u><0.005</u>
<u>Z985</u>	<u>Z 100</u>	<u>3.72</u>	<u><0.005</u>
<u>Z1514</u>	<u>Z 100</u>	<u>14.62</u>	<u><0.005</u>
<u>Z1515</u>	<u>Z 100</u>	<u>14.71</u>	<u><0.005</u>
<u>6141GS</u>	<u>Cs137</u>	<u>7.61</u>	<u><0.005</u>
<u>6145GS</u>	<u>Cs137</u>	<u>7.12</u>	<u><0.005</u>

Instruments used:

Model Survey M S/N B 204 D Cal due 06-29-02
Model P G M Pancake Probe S/N B 651 Q Cal due 06-29-02
Model _____ S/N _____ Cal due _____

Certifications:

Special Form: ☒ Californium 252 (Cf-252) Cf-Pd cermet or Cf-Pd alloy.
☒ Cesium 137 (Cs-137) Cesium Chloride.
☐ Other _____

Leak Test: ☒ The sources listed above have passed the ANSI N5.10-1968 Appendix B Section B2.1 Wipe Test with removable Alpha and Beta/Gamma surface contamination less than 0.005 μCi .

Californium is checked for Alpha and Beta/Gamma contamination; Cesium is checked for Beta/Gamma contamination. For other source material, contact the Radiation Safety Officer.

* Note: $\text{CPM} / (2.22 \times 10^6) = \mu\text{Ci}$

Test Performed By: Ward, D.
Print last name & first initial

Signature: Date: 08/21/01

ThermoGamma-Metrics

LEAK TEST CERTIFICATE

Source Wipe ☒ Source Replenishment ☐ Source Removal ☐ Installation ☐
 Radiation Survey ☐ Shipping ☐ Other ☐

Customer Name: Orion Power	Site: Cheswick Power
RSO: Jim Pfennigwerth	
Location of Source: Crusher House	PO:
Performed By: David J. Ward	Analyzer: 31
	Test Date: 03/12/01

Currently, state and Federally issued radioactive materials licenses define a sealed radiation source as leaking if removable contamination is found to be equal to or greater than 0.005 microcuries.

This is to certify that the following listed and described items have been tested according to American National Standards Institute N5.10-1968 Appendix B Section B2.1, Wipe (Smear) Test. The level(s) of removable contamination observed on the surface of the sources are listed as follows:

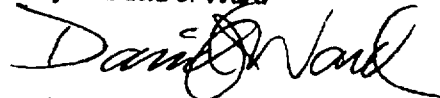
Neutron REM Detector	ION Chamber Survey Meter	Portable Count Rate Meter	Pencake Probe
Manufacturer:	Manufacturer:	Manufacturer: BICRON	Manufacturer: BICRON
Serial #:	Serial #:	Serial #: B204Q	Serial #: B651Q
Model #	Model #	Model #: SURVEY M	Model #: PGM

Source Reference Date : 3/12/01

Californium 252 Source Serial Number	Reference Activity Cf in μ Ci	Removable Surface Contamination μ Ci
CF-Z984	4.22	< 0.005
CF-Z985	4.18	< 0.005
CF-Z 1514	16.42	< 0.005
CF-Z 1515	16.52	< 0.005
Cesium 137 Source Serial Number	Reference Activity Cs in mCi	Removable Surface Contamination μ Ci
6141GS	7.68	< 0.005
6145GS	7.19	< 0.005

Californium is checked for Alpha, Beta and Gamma contamination and Cesium is checked for Beta and Gamma contamination. From the recorded results, there is no indication of leakage from the source(s).

Test Performed by: David J. Ward



Date: 03/12/2001

ThermoGamma-Metrics

LEAK TEST CERTIFICATE

Source Wipe ☒ Source Replenishment ☐ Source Removal ☐ Installation ☐
 Radiation Survey ☐ Shipping ☐ Other ☐

Customer Name: Orion Power	Site: Cheswick Power
RSO: Bill McGraw	
Location of Source:	PO:
Performed By: David J. Ward	Analyzer: 31
	Test Date: 8/8/00

Currently, state and Federally issued radioactive materials licenses define a sealed radiation source as leaking if removable contamination is found to be equal to or greater than 0.005 microcuries.

This is to certify that the following listed and described items have been tested according to American National Standards Institute N5.10-1968 Appendix B Section B2.1, Wipe (Smear) Test. The level(s) of removable contamination observed on the surface of the sources are listed as follows:

Neutron REM Detector	ION Chamber Survey Meter	Portable Countrate Meter	Pancake Probe
Manufacturer:	Manufacturer:	Manufacturer: S. E. INTER.	Manufacturer:
Serial #:	Serial #:	Serial #: 02740	Serial #:
Model #	Model #	Model # MONITOR 5	Model #

Source Reference Date :

8/8/00

Californium 252 Source Serial Number	Reference Activity Cf In μ g	Removable Surface Contamination DPM
CF-Z501	1.75	○
CF-Z502	1.72	○
CF-Z709	3.36	○
CF-Z710	3.22	○
CF-Z984	4.93	○
CF-Z985	4.88	○
Cesium 137 Source Serial Number	Reference Activity Cs In mCi	Removable Surface Contamination DPM
6141GS	7.79	○
6145GS	7.29	○

Californium is checked for Alpha, Beta and Gamma contamination and Cesium is checked for Beta and Gamma contamination. From the recorded results, there is no indication of leakage from the source(s).

Test Performed by: David J. Ward

David J. Ward
 Date: 8/8/00

ThermoGamma-Metrics

LEAK TEST CERTIFICATE

Source Wipe ☒ Source Replenishment ☐ Source Removal ☐ Installation ☐
 Radiation Survey ☐ Shipping ☐ Other ☐

Customer Name: Duquesne Power and Light	Site: Cheswick Power
RSO: Jim Pfennigwerth	
Location of Source:	PO:
Performed By: David J. Ward	Analyzer: 31
	Test Date: 2/4/00

Currently, state and Federally issued radioactive materials licenses define a sealed radiation source as leaking if removable contamination is found to be equal to or greater than 0.005 microcuries.

This is to certify that the following listed and described items have been tested according to American National Standards Institute N5.10-1968 Appendix B Section B2.1, Wipe (Smear) Test. The level(s) of removable contamination observed on the surface of the sources are listed as follows:

Neutron REM Detector	ION Chamber Survey Meter	Portable Count Rate Meter	Pancake Probe
Manufacturer:	Manufacturer:	Manufacturer: S. E. INTER.	Manufacturer:
Serial #:	Serial #:	Serial #: 02740	Serial #:
Model #	Model #	Model # MONITOR 5	Model #

Source Reference Date :

2/4/00

Californium 252 Source Serial Number	Reference Activity Cf in μ g	Removable Surface Contamination DPM
CF-Z501	2.00	0
CF-Z502	1.96	0
CF-Z709	3.84	0
CF-Z710	3.67	0
CF-Z984	5.63	0
CF-Z985	5.58	0
Cesium 137 Source Serial Number	Reference Activity Cs in mCi	Removable Surface Contamination DPM
6141GS	7.88	0
6145GS	7.38	0

Californium is checked for Alpha, Beta and Gamma contamination and Cesium is checked for Beta and Gamma contamination. From the recorded results, there is no indication of leakage from the source(s).

Test Performed by: David J. Ward

Date:

2/4/00



LEAK TEST CERTIFICATE

Source Wipe ☒ Source Replenishment ☐ Source Removal ☐ Installation ☐
 Radiation Survey ☐ Shipping ☐ Other ☐

Customer Name: <u>Dugan Light Co</u> RSO: Location of Source: <u>Crusher BMA</u> Performed By: <u>John Hegley</u>	Site: <u>Chewick River Plant</u> Chg No.: Analyzer: <u>3)</u> Test Date: <u>8-5-99</u>
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Currently, state and Federally issued radioactive materials licenses define a sealed radiation source as leaking if removable contamination is found to be equal to or greater than 0.005 microcuries.

This is to certify that the following listed and described items have been tested according to American National Standards Institute N5.10-1968 Appendix B Section B2.1, Wipe (Smear) Test. The level(s) of removable contamination observed on the surface of the sources are listed as follows:

Neutron REM Detector	ION Chamber Survey Meter	Portable Countrate Meter	Pancake Probe
Manufacturer:	Manufacturer:	Manufacturer: Radiation Alert	Manufacturer:
Serial #:	Serial #:	Serial #: 02866	Serial #:
Model #	Model #	Model # Monitor 5	Model #

Source Reference Date :

8-5-99

Californium 252 Source Serial Number	Reference Activity Cf in μ g	Removable Surface Contamination DPM
CF-250)	2.28	0
CF-2709	4.37	0
CF-2984	6.42	0
CF-2502	2.24	0
CF-2710	4.19	0
CF-2985	6.36	0
Cesium 137 Source Serial Number	Reference Activity Cs in mCi	Removable Surface Contamination DPM
614165	2.97	0
614565	7.46	0

Californium is checked for Alpha, Beta and Gamma contamination and Cesium is checked for Beta and Gamma contamination. From the recorded results, there is no indication of leakage from the source(s).

Test Performed By:

John R. Hegley

Date: 8-5-99



LEAK TEST CERTIFICATE

Source Wipe ☒ Source Replenishment ☐ Source Removal ☐ Installation ☐
 Radiation Survey ☐ Shipping ☐ Other ☐

Customer Name: Duquesne Power and Light	Site: Cheswick Power
RSO: Jim Pfennigwerth	
Location of Source:	PO:
Performed By: David J. Ward	Analyzer: 31
	Test Date: 5/5/99

Currently, state and Federally issued radioactive materials licenses define a sealed radiation source as leaking if removable contamination is found to be equal to or greater than 0.005 microcuries.

This is to certify that the following listed and described items have been tested according to American National Standards Institute N5.10-1968 Appendix B Section B2.1, Wipe (Smear) Test. The level(s) of removable contamination observed on the surface of the sources are listed as follows:

Neutron REM Detector	ION Chamber Survey Meter	Portable Count Rate Meter	Pancake Probe
Manufacturer:	Manufacturer:	Manufacturer: S. E. INTER.	Manufacturer:
Serial #:	Serial #:	Serial #: 02740	Serial #:
Model #	Model #	Model #: MONITOR 5	Model #

Source Reference Date :

5/5/99

Californium 252 Source Serial Number	Reference Activity Cf in μ g	Removable Surface Contamination DPM
CF-Z501	2.44	0
CF-Z502	2.39	0
CF-Z709	4.67	0
CF-Z710	4.48	0
CF-Z984	6.86	0
CF-Z985	6.79	0
Cesium 137 Source Serial Number	Reference Activity Cs in mCi	Removable Surface Contamination DPM
6141GS	8.02	0
6145GS	7.50	0

Californium is checked for Alpha, Beta and Gamma contamination and Cesium is checked for Beta and Gamma contamination. From the recorded results, there is no indication of leakage from the source(s).

Test Performed by: David J. Ward

Date:

5/6/99



LEAK TEST CERTIFICATE

Source Wipe ☒
Radiation Survey ☐

Source Replenishment ☐
Shipping ☐

Source Removal ☐
Other ☐

Installation ☐

Customer Name: Duquesne Light Company Site: Cheswick Power Station
 RSO: _____ PO: 2037T
 Location of Source: Duquesne Light Analyzer: 31
 Performed By: Larry L. Taylor Test Date: 5-4-98

Currently, state and Federally issued radioactive materials licenses define a sealed radiation source as leaking if removable contamination is found to be equal to or greater than 0.005 microcuries.

This is to certify that the following listed and described items have been tested according to American National Standards Institute N5.10-1968 Appendix B Section B2.1, Wipe (Smear) Test. The level(s) of removable contamination observed on the surface of the sources are listed as follows:

Neutron REM Detector	ION Chamber Survey Meter	Portable Count Rate Meter	Pancake Probe
Manufacturer:	Manufacturer:	Manufacturer: Radiation Alert	Manufacturer:
Serial #:	Serial #:	Serial #: 02281	Serial #:
Model #	Model #	Model # Monitor 5	Model #

Source Reference Date : <u>5-1-98</u>		
Californium 252 Source Serial Number	Reference Activity Cf in μ g	Removable Surface Contamination DPM
<u>CF-2 501</u>	<u>3.18</u>	<u>< 0.005 μCi</u>
<u>CF-2 502</u>	<u>3.12</u>	<u>< 0.005 μCi</u>
<u>CF-2 709</u>	<u>6.09</u>	<u>< 0.005 μCi</u>
<u>CF-2 710</u>	<u>5.83</u>	<u>< 0.005 μCi</u>
<u>CF-2 984</u>	<u>8.94</u>	<u>< 0.005 μCi</u>
<u>CF-2 985</u>	<u>8.85</u>	<u>< 0.005 μCi</u>
Cesium 137 Source Serial Number	Reference Activity Cs in mCi	Removable Surface Contamination DPM
<u>614165</u>	<u>8.21</u>	<u>< 0.005 μCi</u>
<u>614565</u>	<u>9.13</u>	<u>< 0.005 μCi</u>

Californium is checked for Alpha, Beta and Gamma contamination and Cesium is checked for Beta and Gamma contamination. From the recorded results, there is no indication of leakage from the source(s).

Test Performed By: Larry L. Taylor

Date: 5-4-98